

CLAIMS

What is claimed is:

- 5 1. A vehicle and indicator apparatus comprising:
 a remote-controlled vehicle;
 a power supply operably connected to the remote-controlled vehicle;
 a low-power indicator circuit operably connected to the power supply; and
 at least one low-power indicator operably connected to the low-power indicator circuit
10 and configured to be enabled when a low-power condition is present.
2. The apparatus of claim 1 wherein the at least one low-power indicator comprises a
 visible indicator mounted on the remote-controlled vehicle.
- 15 3. The apparatus of claim 2 wherein the visible indicator comprises a streamer device.
4. The apparatus of claim 3 wherein the streamer device comprises:
 a selectively-openable chamber formed on the remote-controlled vehicle and operably
 connected to the low-power indicator circuit; and
20 at least one streamer housed within the chamber and attached on one end to the chamber
 such that opening the chamber under control of the low-power indicator circuit releases the
 at least one streamer so as to stream behind the remote-controlled vehicle and visibly
 indicate low power.
- 25 5. The apparatus of claim 2 wherein the visible indicator comprises a flag device.
6. The apparatus of claim 5 wherein the flag device comprises:

a staff mounted to the remote-controlled vehicle so as to have a pivotable fixed end and an opposite free end, the staff being operably connected to the low-power indicator circuit; and

5 a flag attached to the staff substantially at the free end such that pivoting the staff about the fixed end under control of the low-power indicator circuit extends the free end away from the remote-controlled vehicle so as to fly the flag and visibly indicate low power.

7. The apparatus of claim 2 wherein the visible indicator comprises a smoke device, the smoke device comprising a smoke source formed on the remote-controlled vehicle and
10 operably connected to the low-power indicator circuit such that actuating the smoke source under control of the low-power indicator circuit releases smoke from the smoke source so as to emanate from the remote-controlled vehicle and visibly indicate low power.

15 8. The apparatus of claim 1 wherein the at least one low-power indicator comprises an audible indicator mounted on the remote-controlled vehicle.

9. The apparatus of claim 1 wherein the at least one low-power indicator comprises:
an audible indicator mounted on the remote-controlled vehicle so as to be selectively
20 audible at a selected distance from the remote-controlled vehicle; and
a visible indicator mounted on the remote-controlled vehicle so as to be selectively visible at a selected distance from the remote-controlled vehicle.

10. The apparatus of claim 1 wherein:
25 the power supply provides an operating voltage within a predetermined voltage range having a nominal voltage; and
the low-power indicator circuit is configured to detect the operating voltage and to enable actuation of the at least one low-power indicator when the operating voltage falls outside the voltage range.

11. The apparatus of claim 10 wherein the at least one low-power indicator comprises a visible indicator mounted on the remote-controlled vehicle.

5 12. The apparatus of claim 10 wherein the at least one low-power indicator comprises an audible indicator and a visible indicator mounted on the remote-controlled vehicle.

13. The apparatus of claim 12 wherein:

the low-power indicator circuit is configured to detect when the operating voltage is
10 within a first outside range defined as outside the voltage range and no more than a cut-off percentage below the nominal voltage and to enable actuation of the audible indicator when the operating voltage falls within the first outside range; and

the low-power indicator circuit is further configured to detect when the operating voltage
is within a second outside range defined as more than the cut-off percentage below the
15 nominal voltage and to enable actuation of the visible indicator when the operating voltage falls within the second outside range.

14. The apparatus of claim 12 wherein the low-power indicator circuit is configured to detect
when the operating voltage is within an outside range defined as more than a cut-off
20 percentage below the nominal voltage and to enable simultaneous actuation of the audible and visual indicators when the operating voltage falls within the outside range.

15. The apparatus of claim 1 wherein:

the power supply comprises an engine and a tank providing fuel to the engine, the tank
25 including a fuel gage configured with a low level setting; and

the low-power indicator circuit is operably connected to the fuel gage and is configured to enable actuation of the at least one low-power indicator when the fuel in the tank falls to the low level setting.

16. The apparatus of claim 1 further comprising a controller configured to enable remote control of the remote-controlled vehicle, wherein the at least one low-power indicator comprises a visible indicator mounted on the controller.
- 5 17. The apparatus of claim 1 wherein the remote-controlled vehicle is selected from the group consisting of a land vehicle, a boat, and an aircraft.
18. A vehicle and indicator apparatus comprising:
a remote-controlled vehicle;
10 a power supply operably connected to the remote-controlled vehicle;
a low-power indicator circuit operably connected to the power supply; and
a means for indicating low power of the power supply operably connected to the low-power indicator circuit.
- 15 19. A vehicle and indicator apparatus comprising:
a remote-controlled vehicle;
a power supply operably connected to the remote-controlled vehicle;
a low-power indicator circuit operably connected to the power supply; and
a mechanical low-power indicator mounted on the remote-controlled vehicle and
20 operably connected to the low-power indicator circuit.
20. The apparatus of claim 19 wherein the mechanical low-power indicator is selected from the group consisting of a streamer device, a flag device, and a smoke device.
- 25 21. A vehicle and indicator apparatus comprising:
a remote-controlled vehicle;
an electrical battery operably connected to the remote-controlled vehicle;
a low-battery life indicator circuit operably connected to the battery; and

at least one low-battery life indicator operably connected to the low-battery life indicator circuit so as to be deployed when the electrical battery has a low battery life, the low-battery life indicator engaged with the vehicle and visible from an exterior position relative thereto.

- 5 22. A method of indicating low power of a remote-controlled vehicle, comprising the steps of:

operating the remote-controlled vehicle so as to decrease a power supply connected to the remote-controlled vehicle;

- 10 detecting a low power condition of the power supply as the remote-controlled vehicle is operated; and

actuating at least one low-power indicator when the low power condition is detected to indicate low power of the power supply.

23. The method of claim 22 comprising the further steps of:

- 15 detecting an operating voltage of the power supply as the remote-controlled vehicle is operated;

comparing the operating voltage to a desired voltage range as set in a low-power indicator circuit operably connected to the power supply; and

- 20 controlling the actuation of the at least one low-power indicator through the low-power indicator circuit.

24. The method of claim 23 comprising the further steps of:

setting a first outside range in the low-power indicator circuit;

- 25 actuating an audible indicator of the at least one low-power indicator when the operating voltage falls within the first outside range;

setting a second outside range in the low-power indicator circuit; and

actuating a visible indicator of the at least one low-power indicator when the operating voltage falls within the second outside range.

25. The method of claim 22 comprising the further steps of:

detecting a fuel level in a tank providing fuel to an engine as the remote-controlled vehicle is operated;

5 comparing the fuel level to a low level setting of a fuel gage operably connected to a low-power indicator circuit; and

controlling the actuation of the at least one low-power indicator through the low-power indicator circuit.

26. The method of claim 22 comprising the further steps of:

10 operably connecting a low-power indicator circuit to the power supply;

mounting the at least one low-power indicator on the remote-controlled vehicle so as to be mechanically operated by the low-power indicator circuit;

operating the at least one low-power indicator under control of the low-power indicator circuit to visibly extend the at least one low-power indicator from the remote-controlled vehicle.
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